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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number 10/770/732

Filing Date 02/02/2004

First Named Inventor Bossard

Group Art Unit

Examiner Name

Total Number of Pages in This Submission

Attorney Docket Number Bossard-9

ENCLOSURES (check all that apply)

☐ Fee Transmittal Form

☐ Fee Attached

☐ Amendment / Reply

☐ After Final

☐ Affidavits/declaration(s)

☐ Extension of Time Request

☐ Express Abandonment Request

☒ Information Disclosure Statement

☐ Certified Copy of Priority Document(s)

☐ Response to Missing Parts/ Incomplete Application

☐ Response to Missing Parts under 37 CFR 1.52 or 1.53

☐ Assignment Papers (for an Application)

☒ Drawing(s)

☐ Licensing-related Papers

☐ Petition

☐ Petition to Convert to a Provisional Application

☐ Power of Attorney, Revocation Change of Correspondence Address

☐ Terminal Disclaimer

☐ Request for Refund

☐ CD, Number of CD(s) _____

☐ After Allowance Communication to Group

☐ Appeal Communication to Board of Appeals and Interferences

☐ Appeal Communication to Group (Appeal Notice, Brief, Reply Brief)

☐ Proprietary Information

☐ Status Letter

☐ Other Enclosure(s) (please identify below):

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name

LaMorte & Associates

Signature

Date

8-4-04

CERTIFICATE OF MAILING

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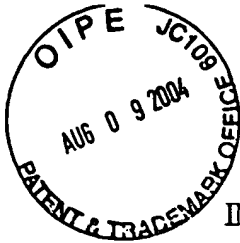
Eric A. LaMorte

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Bossard

Serial No.: **10/770,732**

Filing Date: **February 02, 2004**

: Group Art Unit: **unknown**

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: Examiner: **unknown**

:

: Date: August 4, 2004

:

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For: **COMPOSITE STRUCTURE FOR HIGH EFFICIENCY HYDROGEN
SEPARATION AND ITS ASSOCIATED METHODS OF MANUFACTURE AND USE**

Assistant Commissioner of
Patents and Trademarks

INFORMATION DISCLOSURE STATEMENT

Sir:

In accordance with 37 C.F.R. § 1.56, applicant wishes to call the attention of the
Examiner to the following references:

<u>U.S. Patent No.:</u>	<u>Patentee:</u>	<u>Issue Date:</u>
6,152,987	Ma	November 28, 2000
5,734,092	Wang	March 31, 1998
5,614,001	Kosaka	March 25, 1997
4,699,637	Iniotakis	October 13, 1987
 <u>U.S. Pat App. Pub No.</u>		
2003/0190486	Roa	October 09, 2003

Publications

- (1) Nanostructured thin palladium-silver membranes:
Effects of grain size on gas permeation properties
A. McCOOL, Y. S. LIN*

Department of Chemical Engineering, University of Cincinnati
Cincinnati, OH 45221-0171, USA
E-mail. Jlin@alpha.che.uc.edu

- (2) A study on the palladium/nickel composite membrane by vacuum electrodeposition
Seung-Eun Nam, Kew-Ho Lee *
Membranes and Separation Research Center, Korea Research Institute of Chemical
Technology, P.O. Box 107,
Yusung, Taejon 305-606, South Korea
Received 1 June 1999; received in revised form 28 September 1999,
accepted 15 November 1999
- (3) Preparation of a palladium alloy composite membrane supported in a porous stainless
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Membranes and Separation Center Korea Research Institute of Chemical Technology
PO Box 107, Yusung, Taejon 305-606, South Korea
Received 26 March 1998; received in revised form 26 March 1998; accepted 29 July
1998
- (4) Defect-Free. Palladium Membranes on Porous
Stainless-Steel Support
Peter P. Mardilovich, Ying She, and Yi Hua Ma
Dept. of Chemical Engineering, Worcester Polytechnic Institute
Worcester, MA 01609
Min-Hon Rei, China Technical Consulting, Inc., Taipei, Taiwan, R.O.C.
- (5) Fabrication of thin metallic membranes by MOCVD and sputtering
George Xomeritakis, Y.S. Lin*
Department of Chemical Engineering, University of Cincinnati
Cincinnati, OH 45221-0171, USA
Received 15 January 1997; received in revised form 31 March 1997; accepted 2 April
1997
- (6) Structurally stable composite Pd-Ag alloy membranes:
Introduction of a diffusion barrier
J. Shu, A. Adnot, B.P.A. Grandjean *, S. Kaliaguine
Department of Chemical Engineering and CERPIC, Laval University
Quebec G1K 7P4, Canada
Received 26 July 1995; accepted 4 January 1996
- (7) The relationship between intermetallic diffusion and
David J. Edlund , Jack McCarthy b
^aBend Research, Inc., 64550 Research Road, Bend, OR 97701-8599, USA
^bOregon Graduate Institute, P.O. Box 91000, Portland, OR 97291-1000, USA
H. Zuchner, HA. Schluter T. Rauf, and R. Hergemoller

Institut für Physikalische Chemie der Universität Münster, Schloßplatz 4, W-4000
Münster

- (8) Synthesis and hydrogen permeation properties of ultrathin
palladium - silver alloy membranes
V. Jayaraman, Y.S. Lin *
Department of Chemical Engineering, University of Cincinnati
Cincinnati, OH 45221-0171, USA
Received 12 September 1994; accepted in revised form 6 February 1995

- (9) Nanostructured palladium membrane synthesis by magnetron sputtering
Kenneth J. Bryden, Jackie Y. Ying*
Department of Chemical Engineering, Massachusetts Institute of Technology,
Cambridge, MA 02139, USA
Received 11 January 1995; accepted 3 April 1995

- (10) Properties of Thin Palladium-Films and Their Hydrogen-Permeability
H. Zuchner, H.A. Schlüter, T. Rauf, and R. Hergemöller
Institut für Physikalische Chemie der Universität Münster, Schloßplatz 4, W-4000
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- (11) Morphological changes of Pd-Ag membranes upon hydrogen permeation
JOURNAL OF MATERIALS SCIENCE LETTERS 16 (1997) 294--297
J. SHU, B. E. W. BONGONDO, B. P. A. GRANDJEAN, S. KALIAGUINE
Department of Chemical Engineering, Laval University, Quebec, Canada G1K 7P4

Copies of these references are submitted herewith along with form PTO-1449.

The listed references relate to hydrogen purification systems that use palladium barriers. The relevance of some of these patents is discussed in the above-referenced patent application. The relevance of other references are explained below. References that are not cited in the application or explained below are cited for the purposes of background information only.

U.S. Patent Application Publication Number 2003/0190486 to Roa discloses a hydrogen separation system where a solid palladium alloy is applied to a substrate of dissimilar material. The substrate is a ceramic or metal and does not contain palladium.

The document entitled "*A Study On The Palladium/Nickel Composite Membrane By Vacuum Electrodeposition*" by Seung-Eun Nam, Kew-Ho Lee discloses the formation of a palladium alloy on a substrate of dissimilar material. The substrate is mesoporous stainless steel.

The document entitled "*Fabrication Of Thin Metallic Membranes By MOCVD And Sputtering*" by George Xomeritakis, Y.S. Lin* discloses the formation of a palladium alloy on a substrate of dissimilar material. The substrate is macroporous aluminum oxide.

The document entitled "*Nanostructured Palladium Membrane Synthesis By Magnetron Sputtering*" by Kenneth J. Bryden, Jackie Y. Ying* discloses the formation of a palladium alloy on a substrate of dissimilar material. The substrate is porous alumina

The document entitled "*The Relationship Between Intermetallic Diffusion And Flux Decline In Composite-Metal Membranes*" by David J. Edlund and Jack McCarthy discloses the formation of a palladium alloy on a substrate of dissimilar material. The substrate is a vanadium based metal layer.

The document Entitled "*Nanostructured Palladium Membrane Synthesis By Magnetron Sputtering*" by Kenneth J. Bryden and Jackie Y. Ying discloses the formation of a palladium alloy on a substrate of dissimilar material. The substrate is a Vycor glass substrate.

The document entitled "*Preparation Of A Palladium Alloy Composite Membrane Supported In A Porous Stainless Steel By Vacuum Electrodeposition*" by Seung-Eun Nam, Sang-Hak Lee, Kew-Ho Lee discloses the formation of a palladium alloy on a substrate of dissimilar material. The substrate is porous stainless steel.

The document entitled "*Structurally Stable Composite Pd-Ag Alloy Membranes: Introduction Of A Diffusion Barrier*" by J. Shu, A. Adnot, B.P.A. Grandjean , and S. Kaliaguine, discloses the formation of a palladium alloy on a substrate of dissimilar material. The substrate is porous stainless steel.

The citation of these patents does not constitute an admission that these references are relevant or material to the claims; they are cited only as constituting the closest art of which the applicant is aware.

Respectfully submitted,



Eric A. LaMorte, Esq.
Reg. No. 34,653
Attorney for Applicant

Date: 8-4-07

Form PTO-1449 U.S. Department of Commerce Patent and Trademark Office <div style="text-align: center;"> INFORMATION DISCLOSURE CITATION (Use several sheets if necessary) </div>	Atty. Docket No. BOSSARD -9 Applicant Bossard Filing Date 02/02/2004	Serial No 10/770,732 Group
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U. S. PATENT DOCUMENTS

U. S. PATENT DOCUMENTS

*Examiner Initial		Document Number							Date	Name	Class	Sub-class	Filing Date If Appropriate
	AA	6	1	5	2	9	8	7	11/28/00	Ma et al.	95	56	
	AB	5	7	3	4	0	9	2	03/31/98	Wang	73	23.25	
	AC	5	6	1	4	0	0	1	03/25/97	Wang	96	10	
	AD	4	6	9	9	6	3	7	10/13/87	Iniotakis	55	158	
	AE												
	AF												
	AG												
	AH												
	AI												
	AJ												
	AK												

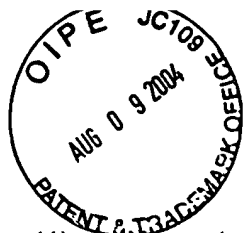
FOREIGN PATENT DOCUMENTS

*Examiner Initial		Document Number							Date	Name	Class	Sub-class	Translation	
													Yes	No
	AL													
	AM													
	AN													
	AO													
	AP													

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Page, Etc.)

	AR		U.S. Pat App Pub No. 2003/0190486 to Roa, filed 04/03/2003
	AS		See Attached List of Professional Papers (11) references
	AT		

Examiner	Date Considered
* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	



- (1) Nanostructured thin palladium-silver membranes:
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